One Small Step for Generative AI, One Giant Leap for AGI: A Complete Survey on ChatGPT in AIGC Era

Abstract

OpenAI has recently released GPT-4 (a.k.a. ChatGPT plus), which is demonstrated to be one small step for generative AI (GAI), but one giant leap for artificial general intelligence (AGI). Since its official release in November 2022, ChatGPT has quickly attracted numerous users with extensive media coverage. Such unprecedented attention has also motivated numerous researchers to investigate ChatGPT from various aspects. According to Google scholar, there are more than 500 articles with ChatGPT in their titles or mentioning it in their abstracts. Considering this, a review is urgently needed, and our work fills this gap. Overall, this work is the first to survey ChatGPT with a comprehensive review of its underlying technology, applications, and challenges. Moreover, we present an outlook on how ChatGPT might evolve to realize general-purpose AIGC (a.k.a. AI-generated content), which will be a significant milestone for the development of AGI.